

Appl. No. : 10/081,028
Filed : February 21, 2002

REMARKS

In the Office Action mailed March 22, 2006, the Examiner rejected Claim 6 under 35 U.S.C. § 112, second paragraph. The Examiner further rejected Claims 1, 2, 4-10 and 15-20 under 35 U.S.C. § 103(a) as being unpatentable over Schweitzer et al. (U.S. Patent No. 5,203,659), in view of Hiroki (U.S. Patent No. 5,989,346). By this paper, the Applicant has amended Claims 1, 6 and 15 to highlight the subject matter that the Applicant believes is allowable over the art of record and has further amended Claim 6 in order to provide antecedent support as suggested by the Examiner. Hence, reconsideration of the above-captioned application in light of the amendments and remarks contained herein is now respectfully requested.

After carefully reviewing both Schweitzer and Hiroki, the Applicant notes that neither of these references, either by themselves or in combination, teach the concept of removing a selected chip carrier plate from the magazine in a first angular orientation then transporting the chip carrier plate to a processing station wherein the chip carrier plate is substantially maintained in the first angular orientation throughout the whole transport process. As discussed in the specification of the application as filed, the Applicant's claimed invention maneuvers the chip carrier plates only in linear motions as is exemplified by the linear arrow in Figure 1 and no corresponding rotational arrow.

As a consequence of the non-rotating linear movement of the chip carrier plate by the transportation arrangement, the Applicant achieves a major advantage of reducing the transport time of the chip carrier plate since rotational movement in these types of mechanisms requires a considerable amount of time. Hence, the Applicant's claimed invention is quicker and more efficient at moving the chip carrier plates.

In marked contrast, both Schweitzer and Hiroki require the use of rotational motion of the corresponding plate. For example, the rotational motion of Schweitzer is clearly demonstrated in Figures 6(i) – 6(v) and is also illustrated in Figure 3 of the Hiroki reference as well. As a result of requiring rotational motion in order to move the corresponding plate, neither Schweitzer nor Hiroki achieve the same efficiencies as the Applicant's transport system. Moreover, as both these references disclose and teach the concept of moving plates with rotational motion, there is

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no teaching in either of these references of the desirability of a substantially linear motion transport system. As such, neither of these references either alone or in combination disclose the invention claimed by the Applicant.

A further advantage of the Applicant's system as defined by Claims 1, 6 and 15 is that the Applicant's system allows for simultaneous removal and deposit of chip carrier plates at both the magazine and also at the processing station. This further results in a substantial reduction in the transport time and thereby improves the efficiency by which the mechanism can operate. Thus, the linear motion and the simultaneous extraction and deposition allows for a hybrid chip bonder to be operated with greatly reduced turn-off time between the bonding of different types of chips.

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SUMMARY

Based upon the foregoing, the Applicant believes that Claims 1, 6 and 15 are allowable over the art of record. The Applicant further submits that remaining claims define additional patentable subject matter and are further allowable due to their respective dependencies on Claims 1, 6 and 15. The Applicant therefore believes that the above-captioned application is in condition for allowance and requests the prompt allowance of the same. Should there be any impediment to the prompt allowance of this application that could be resolved by a telephone conference, the Examiner is respectfully requested to call the undersigned at the number shown below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 8/22/06

By: 

Michael H. Trenholm
Registration No. 37,743
Attorney of Record
Customer No. 20,995
(951) 781-9231

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